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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,004	07/15/2003	Scott T. Broadley	BROADRE.23CPIC2	9114

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EXAMINER

BELL, BRUCE F

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,004	Applicant(s) BROADLEY ET AL.	
	Examiner Bruce F. Bell	Art Unit 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/24/04; 11/29/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-26 of U.S. Patent No. 6,616,821. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims as set forth encompass those of the patent application as set forth. Even though the patent application claims disclose a formula for calculating the rate at which the reference electrolyte solution flows through the array of nanochannels into the sample solution in terms of velocity, the velocities of greater than 0.1 cm/sec are disclosed for both the patented invention and the instantly claimed invention, which appear to be the same. The person having ordinary skill in the art would have the knowledge and ability to calculate the velocity for the reference electrolyte solution into the sample solution with a device that has the same velocity requirements and the same array of nano-channels, and would also be able design the

array of nano-channels with respect to diameter and length of the channels to achieve such velocity. Both the patent and the patent application disclose in the claims the size of the array, the diameters (widths) of the channels, the materials used for the junction member, the mechanical means for achieving the flow of electrolyte, and the type of sensing electrodes that may be used. Even though the patented claims do not show the volumetric flow from the electrolyte solution into the sample solution, it appears to the examiner that this is easily found and would be inherently the same given the velocity being greater than 0.1 cm/sec, where the greater the velocity, the greater the volumetric flow would be into the sample solution. Therefore, the patented claims encompass the instant claims found in the patent application.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20, 23-25 of U.S. Patent No. 6,599,409. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims encompass those of the patent

application. Even though the patent application claims disclose a formula for calculating the rate at which the reference electrolyte solution flows through the array of nanochannels into the sample solution in terms of velocity, the velocities of greater than 0.1 cm/sec are disclosed for both the patented invention and the instantly claimed invention, which appear to be the same. The person having ordinary skill in the art would have the knowledge and ability to calculate the velocity for the reference electrolyte solution into the sample solution with a device that has the same velocity requirements and the same array of nano-channels, and would also be able design the array of nano-channels with respect to diameter and length of the channels to achieve such velocity. Both the patent and the patent application disclose in the claims the size of the array, the diameters (widths) of the channels, the materials used for the junction member, the mechanical means for achieving the flow of electrolyte, and the type of sensing electrodes that may be used. The volumetric flow is also set forth in the patented claims along with the velocity of the reference solution into the sample solution. Therefore, the patent claims encompass those as set forth in the patent applications instant claims.

5. Claims 1-39 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22, 24-27, 34-38, 41, 42 of copending Application No. 10/621010. Although the conflicting claims are not identical, they are not patentably distinct from each other because the structural features of the two instant applications as set forth in the instant claims are the same. Both applications instantly claims a flowing junction reference electrode having a

reference electrolyte solution and a sample solution and a liquid junction member having N discrete nanochannels having dimensions N, D and L, wherein the liquid junction is formed between and in fluid communication with the reference electrolyte solution and the sample solution. Further, both teach the use of pressure and both teach the same velocity for the reference electrolyte solution to cross the liquid junction into the sample solution. The viscosity of the reference electrolyte solution is also taught in both patent applications. The ranges of the number of discrete nano-channels, diameters of the channels, lengths of the channels and even the materials used for the liquid junction member are taught in both of the patent application claims as set forth. Therefore, both patent applications are encompassed by one another.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

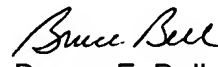
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BFB
May 26, 2005


Bruce F. Bell
Primary Examiner
Art Unit 1746